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Public Affairs

Corps Facts

Fargo South Dam

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This project is part of a system of restored dams that will improve the Red River fishery by facilitating access to a variety of habitats in the tributaries and along a 270-mile reach of the main stem from Drayton, N.D., to Hickson, N.D. The Fargo South Dam Fishway is an engineered rock rapids constructed downstream of an existing low-head dam. The project facilitates fish passage, eliminates a public safety hazard and preserves the water supply pool without increasing 100-year flood levels. The project exemplifies intergovernmental cooperation and multi-purpose planning.

Background

The existing sheet pile dam was constructed in 1933 for water supply purposes with a spillway length of 104 feet and a crest elevation about 10 feet above the natural channel bottom. The pool behind the dam provided storage for potential water supply and enhanced slope stability on the riverbanks. However, the existing dam also blocked fish passage and created a dangerous hydraulic roller that could trap and drown unsuspecting victims. The existing dam limited access to the diversity of habitats fish need during various life-stages. The streams of the Red River basin support more than 80 species of fish but connections between the river's main stem and its tributaries are important in maintaining this diversity. Although the main stem provides key habitat for over-wintering and surviving droughts, it lacks spawning habitat for most species. Fish must be able to move back and forth between main stem and tributary habitats in order to flourish.

Project Details

The rock slope fishway uses a series of boulder vanes over gradually sloping rock fill to direct flow toward the center of the channel, eliminate the hydraulic roller and create resting places for migrating fish. Rock fill and riprap was placed to create a five-percent slope from the top of the dam to a point approximately one-foot below low tail water. The project includes an emergency boat ramp, a canoe ramp and a portage trail to provide safe passage around the dam and access for rescue personnel. Construction began in October 2003 and was completed in the summer of 2004. It cost around \$1 million to build.

The project provides a model for inter-agency, inter-disciplinary cooperating, combining engineering and biological expertise to ensure success. The U.S. Army Engineer Research and Development Center's Coastal and Hydraulics Laboratory conducted a three-dimensional mathematical model study of the project geometry. The study showed that the project would not adversely affect water surface elevations during a 100-year flood event. An experienced fish passage expert from the Minnesota Department of Natural Resources provided state-of-the-art design guidance on project geometry and directed final boulder placement to ensure optimal ecosystem performance.

Partners

A partnership of 10 local, state and federal agencies contributed funds for the project, including the U.S. Army Corps of Engineers, the city of Fargo, the city of Moorhead, the Fargo Park District, the Buffalo-Red Watershed District, the Southeast Cass Water Resource District, the North Dakota Game and Fish Department, the Minnesota Department of Natural Resources, the North Dakota State Water Commission and the U.S. Fish and Wildlife Service.